

**SYSTEM AND METHODS FOR DEVELOPMENT AND TESTING OF PAYLOAD  
INTERACTION**

**ABSTRACT**

[0029] An embedded real-time operating system model which uses flight software to verify commands, fault annunciations, and telemetry acquisition is provided. The system includes or provides an avionics emulator, emulation of craft avionics and other components, complying command data or mission simulation software, and a portable computer for the cargo PC in a system to allow analysis of a payload and its interaction without access to actual flight computers of the craft.